

## THE HEMOSPAST.

A NEW AND CONVENIENT INSTRUMENT FOR DRAWING  
BLOOD FOR MICROSCOPIC EXAMINATION.

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In a recent number of the *Medical Record* I called attention to this instrument as a convenient apparatus for physicians in drawing small quantities of blood for diagnostic purposes. During the past few weeks, however, I have made some important changes in its construction, and which are incorporated in the present description. The constantly increasing attention which is being given to the blood, and the importance of the results of its examination in making diagnoses, renders improvement in the instruments for obtaining even the little blood needed for this purpose worthy of attention. Although a sharp pointed bistoury, a surgical or even sewing needle can be used by the vigorous laboratory student on himself or equally robust companion with little or no discomfort, this little operation has a much more serious aspect to the anemic and usually nervous patient. With these the mere sight of a sharp instrument, although it be but a surgical needle, causes much apprehension. It frequently happens that in the very anemic it is necessary to make several "stabs" before a sufficient flow of blood is secured, and often through a desire to avoid a repetition of the hurt I have seen unnecessarily deep incisions made.

In studying the blood of the smaller or experimental animals in the laboratory the task of getting the blood is less difficult, but even here the incision which is made with a

scalpel, bistoury, or scissors is often unnecessarily long or deep. For the larger animals the spring fleam is very satisfactory, but it is not applicable for the smaller species or for the human subject.

The introduction of the hematocrit for the determination of the number of red blood corpuscles necessitates a slightly larger quantity of blood for each examination than was required for the counting apparatus and consequently aggravates the difficulties, by the present methods, of procuring the required amount. The desire for an instrument with which the incision could be made instantly, and the depth of the cut accurately regulated, led me to make some experiments in the construction of an apparatus possessed of these qualities. The outcome has been a spring needle lancet which works so admirably, and which has so completely removed the difficulties mentioned that it seems worthy of description.



The hemospast<sup>1</sup> consists of a metal tube (I have used brass) about five centimeters long and one centimeter in diameter. The upper end is closed with a milled-edged screw-cap and the lower end covered with a perforated screw-cap, upon which is a second perforated screw-cap about one centimeter long. This forms a regulator for graduating the length of the projection of the cutting needle. A narrow longitudinal slot, two centimeters long, is cut in one side of the tube, beginning one-half centimeter from the lower end. This has a shallow notch cut into the tubing at the top and a deep pocketed one a little below the middle. In the upper part of the tube is a piece of coiled wire spring two and a half centimeters long and of sufficient strength to give the necessary force to a cylindrical plunger carrying the needle, which is

<sup>1</sup> Hemospast is the noun from the Greek combination of which the adjective form hemospastic (drawing or attracting blood) is already in use.

placed next to it in the lower part of the tube. The plunger rests against the cap. The incision is made with a triangular-pointed needle inserted and fastened into the lower end of the plunger. A piece of perforated rubber covers the lower end of the plunger and prevents the harsh clicking sound which otherwise would follow the springing of the needle. From the side of the plunger projects a trigger which moves in the slot and with which the plunger is pushed up. When the spring is thus set the trigger is easily caught by a slight twisting movement into the notch at the upper end of the slot. When not in use, the trigger rests in the pocketed notch. By means of the regulator the length of the projecting part of the needle can be easily adjusted. The needle is entirely hidden from sight, so that the instrument, if exposed to view, does not suggest an implement of torture.

In use it is convenient and easily handled. After the finger, or other part, is cleansed and the incision is to be made the spring is set and the instrument is pressed gently to the part, the trigger pushed slightly and the incision of exactly the depth desired is instantly made. As soon as sprung the hemospast can be dropped and the collection of blood begun.

This instrument is equally efficient and much more convenient in procuring small quantities of blood from experimental animals than those which I have heretofore observed in the hands of others or employed myself. As it is made entirely of metal it can be sterilised as other surgical instruments. If desired, it can be made larger and stronger with needles of various sizes and, if preferred, with a cutting edge of a millimeter or more in length. It is available, therefore, for workers in laboratories where normal human blood or that of healthy or diseased animals is being studied, as well as for the practising physician. Although simple in its design, there were a few mechanical difficulties encountered, for the overcoming of which I am indebted to Mr. W. C. Barnard for timely suggestions.